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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/593,961

09/22/2006

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EXAMINER

BERHANU, SAMUEL

ART UNIT

PAPER NUMBER

2838

MAIL DATE

DELIVERY MODE

08/21/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/593,961	Applicant(s) ISHII, MITSUNORI	
	Examiner SAMUEL BERHANU	Art Unit 2838	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>09/22/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3, 5, 7, 9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Araki et. al. (JP 2001-147260).

As to Claim 5, Araki discloses in Figures 1-6, an apparatus for estimating a remaining capacity of an electric storage, comprising: current detecting means (1-2) for detecting a charging/discharging current of said electric storage (see Abstract); voltage measuring means (1-1) for detecting a terminal voltage of said electric storage; storing means for holding a value of said remaining capacity; operating means for continuously executing an integrating operation to the value stored in said storing means based on said charging/discharging current that is detected; timing detecting means for detecting a switching timing between charge and discharge of said electric storage based on an output of said current detecting means; and remaining capacity value acquiring means (the control unit 7 has Memory) for obtaining a remaining capacity value based on said terminal voltage with said timing that is detected, wherein said value in said storing means is updated with the remaining capacity value obtained by said remaining capacity value acquiring means with said timing that is detected.

(Noted that Araki does not disclose explicitly measuring or detecting means of time,

Art Unit: 2838

how ever battery terminal voltage and Soc of the battery are taken based on a predetermined elapsed time therefore time measuring means is implicitly disclosed)

As to Claim 7, Araki discloses in paragraphs 0038, wherein said remaining capacity value acquiring means has a look-up table indicating a relationship between an open-circuit voltage and the remaining capacity value of said electric storage and refers to said look-up table based on said terminal voltage to obtain said remaining capacity value.

Claims 1, 3 method steps will be met during the normal operation of the apparatus described above.

As to claims 9 and 11 see remarks and rejections above.

3. Claims 2, 4, 6, 8, 10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Araki et. al. (JP 2001-147260) in view of Sato et. al. (US 6,008,626) (hereinafter Sato)

As to Claim 6, Sato discloses in Figure 1, wherein the remaining capacity of the electric storage that is a lithium ion secondary battery is estimated.

It would have been obvious to a person having ordinary skill in the art at the time of the invention to substitute Araki's battery with Sato's Lithium battery in order to prevent the lithium secondary battery from being deteriorated at the high voltage and to correct the fully charged capacity thereof.

As to Claim 8, Araki in view of Sato discloses, wherein the remaining capacity of the electric storage that is a lithium ion secondary battery is estimated.

As to claims 2 and 4 the method steps will be met during the normal operation of the apparatus described above.

As to claims 10-12 see remarks and rejections above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SAMUEL BERHANU whose telephone number is (571)272-8430. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Akm Ullah can be reached on 571-272-2361. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Adolf Berhane/
Adolf Berhane
Primary Examiner

Application/Control Number: 10/593,961

Page 5

Art Unit: 2838

Art Unit 2838

/S. B./